

## **Major Changes from the Currently Adopted 2000 NFPA Life Safety Code to the 2012 Life Safety Code**

*(Explanation of changes that result in more stringent requirements)*

### **Sprinklers in New Single Family Homes**

Starting with the 2006 edition of the LSC, all new one- and two-family dwellings are required be protected throughout with fire sprinklers. (This requirement does not appear in the 2000 LSC).

### **Sprinklers in Assembly Occupancies**

Starting with the 2006 edition of the LSC, some assembly occupancies, including existing occupancies, must install sprinkler systems where they previously were not required. As the result of over 100 deaths in the Station Night Club Fire in Rhode Island, the Life Safety Code was modified in the 2006 edition to require that automatic fire sprinkler protection be installed in all new assembly occupancies and all existing assembly occupancies with an occupant load over 100 if they are of the following types: bars with live entertainment, dance halls, discotheques, nightclubs and assembly occupancies with festival seating. (The 2000 LSC does not require sprinklers in these occupancy types until the occupant load exceeds 300).

### **Sprinklers in All Existing High-Rise Healthcare Occupancies**

Starting with the 2009 edition of the LSC, all existing high-rise buildings housing health-care occupancies are required to be sprinklered within 12 years of the adoption of the 2009 (or newer editions) of the Life Safety Code. (This is not required by the 2000 LSC).

**Fire Department Notification of Fire Alarm Activation in New and Existing Apartment Buildings** Starting with the 2009 edition of the LSC when apartment buildings are required to have fire alarm systems (when the building contains more than 3 stories or more than 11 units) activation of the fire alarm system must automatically notify the fire department. This is true for both new and existing apartment buildings. (The 2000 LSC requires the fire alarm to be installed in accordance with the same size parameters, but does not require activation of the alarm to automatically notify the fire department).

### **New High Rise Buildings**

Starting with the 2012 edition of the LSC, all new high rise buildings must comply with the high rise building package of the LSC thus promoting consistency in protection regardless of occupancy type. The 2009 and previous editions of the LSC allowed individual occupancy classification chapters to determine if/when the high rise provisions of the LSC would apply or allowed individual occupancy chapters to formulate high rise requirements specific only to that occupancy classification. Now, all new high rise buildings must comply with the same LSC high rise building requirements.

### **Churches No Longer Automatically Exempt from Sprinkler Requirements**

Starting with the 2009 edition of the LSC, the former exemption to the provision of fire sprinkler systems in both new and existing assembly occupancies simply because the occupancy is used “primarily for worship” was removed. (The 2000 LSC allowed this exemption). Note that this does not result in all church occupancies requiring protection by automatic sprinklers. Rather, it makes church occupancies subject to the same criteria as other assembly occupancies for determining if a sprinkler system is required.

### **Inspection of Fire and Smoke Doors**

Starting with the 2009 edition of the LSC, certain occupancy classifications (including assembly, educational, day-care, and residential board and care) require that fire doors be inspected and tested on an annual basis to ensure their functionality and performance. This inspection and testing is required to be conducted by “*individuals who can demonstrate knowledge and understanding of the components*”, but not necessarily by an outside contractor. In the 2012 edition of the Life Safety Code this requirement was extended to apply also to any smoke-rated door (a protective door in a smoke barrier or smoke partition) in addition to fire rated doors. (While the 2000 LSC contains requirements for the presence of fire doors and smoke rated doors, it does not address their testing or inspection).

### **Smoke Detectors in New Apartment Buildings**

Starting with the 2009 edition of the LSC, smoke detectors are required to be provided in all bedrooms of new apartment buildings, even when protected by automatic sprinklers. (The 2000 LSC exempts apartment buildings from providing smoke detectors in the bedrooms of apartments if they are protected by automatic sprinklers).

### **Carbon Monoxide Detectors**

Starting with the 2012 edition of the LSC, specific types of residential occupancies are required to be protected by carbon monoxide (CO) alarms or detection systems. The 2012 LSC makes CO detection mandatory in

- New Day Care Homes where client sleeping occurs.
- New One- and Two-Family Dwellings with communicating attached garages (unless mechanically ventilated) or if the dwelling unit contains fuel-burning appliances.
- New Lodging and Rooming Houses with communicating garages (unless mechanically ventilated) or if the dwelling unit contains fuel burning appliances.
- New Hotels and Dormitories with guest rooms or guest suites with communicating attached garages (unless mechanically ventilated) or if the guest room or guest suite contains fuel-burning appliances.
- New Apartment Buildings with communicating attached garages (unless mechanically ventilated) or if the dwelling unit contains fuel-burning appliances.

(The 2000 LSC included no requirements for carbon monoxide detectors).

It must be realized that carbon monoxide detectors are already made mandatory in Illinois residential occupancies by state statute. The Carbon Monoxide Alarm Detector Act made CO detection required as of January 1, 2007 in every dwelling unit within 15 ft. of rooms used for sleeping. The requirements of the 2012 LSC for carbon monoxide detection however, are more stringent than the Illinois law in one important aspect: the LSC requires that CO detection be provided “on every occupiable level of a dwelling unit including basements”. This is more stringent than the Illinois law which does not require CO detectors on levels of an occupancy if no sleeping is occurring on those levels.

### **Tactile Signs in Some Stairways**

Starting with the 2006 LSC, identifying signage (including tactile signage) is required to be provided within existing stairways that serve  $\geq 5$  stories. In addition to other requirements, the signage must identify the stairway, indicate the floor level, indicate the terminus of the top and bottom of the stairs, and offer information relating to the direction to the exit discharge. (The 2000 edition of the LSC exempts existing approved conditions from this requirement).

### **Tactile Signage at Exit Doors**

Starting with the 2006 LSC, tactile “exit” signage is required to be applied at all exit doors in new occupancies or those existing occupancies that change occupancy classification. This requirement does not apply to existing doors. (The 2000 LSC only requires stairway exit doors to have tactile signage but does not apply the requirement to all exit doors).

### **Wider Stairways in Large Buildings**

Starting with the 2009 LSC, new stairs are required to increase stair width to 56 inches to facilitate counterflow by occupants and emergency responders on portions of any stair serving  $\geq 2000$  persons. Required existing stair widths are not affected by this modification. This requirement results directly from lessons learned during the 2001 World Trade Center incident. (The 2000 LSC requires stairway width of 44”).

### **Sprinklers in New Apartment Buildings without Exception**

Starting with the 2009 edition of the LSC, sprinkler systems are required in all new apartment buildings. (The 2000 LSC does require sprinklers in new apartment buildings but then offers some obscure exceptions for a building owner to avoid the sprinkler requirement. Therefore, this change is not as major as it would appear as most new apartment buildings would have to be protected by automatic sprinklers under the 2000 LSC).

### **Sprinklers in New Educational Occupancies**

The 2012 edition of the LSC has lowered the threshold for mandatory protection of educational occupancies by automatic sprinklers. The 2009 edition of the LSC required automatic sprinkler protection of the building if the area of the educational occupancy exceeded 20,000 ft.<sup>2</sup> The requirement for sprinkler protection under the 2012 edition of the LSC is now 12,000 ft.<sup>2</sup>. Realize however, that per separate Illinois statute, [105 ILCS 5] all new public school occupancies are already required to be protected by automatic sprinkler systems if they exceed 7,200 ft.<sup>2</sup>

### **Fire Alarm System Required to Notify Fire Department**

Starting in the 2012 edition of the Life Safety Code, language was added requiring that in several existing occupancy classifications, if an existing fire alarm system is replaced, the new system must be installed to include fire department notification upon activation (or notification of an outside service that will notify the fire department) when the alarm is activated. This requirement applies to:

- Existing Educational Occupancies
- Existing Day Care Center Occupancies
- Existing Large Residential Board and Care Occupancies (Large facilities are those with  $> 16$  clients)
- Existing Business Occupancies that require a fire alarm

(The 2000 edition of the LSC did not make fire department notification necessary in any occupancy classification simply because the fire alarm system was replaced).

### **Existing Large Residential Board and Care Occupancies with Impractical Evacuation Capability must be Protected by Automatic Sprinklers**

Starting with the 2012 edition of the LSC, all existing large (> 16 clients) residential board and care occupancies with an evacuation capability designation of “impractical” are required to be protected throughout by an automatic sprinkler system. In earlier editions of the LSC, there was not an across-the-board requirement to protect all such existing large residential board and care homes with automatic sprinklers. Rather, “impractical” large residential board and care homes were required to comply with the requirements for existing health care occupancies and whether sprinkler systems were required was dependent upon height and construction type of the building housing the residential board and care occupancy. In the 2012 edition of the LSC, all residential board and care occupancies, including large “impractical” evacuation homes, are addressed within the residential board and care occupancy chapter and there is no reference back to the health care chapter requirements.

### **Protection of Attics in Residential Board and Care Occupancies**

Starting with the 2012 edition of the LSC, if a residential board and care occupancy is protected by an automatic sprinkler system, that system must provide protection in the attic spaces of the structure. For existing small ( $\leq 16$  clients) board and care facilities sprinklers are required to be provided only if the evacuation capability of the facility is “impractical” (which is rare). Therefore, in such facilities, existing sprinkler systems would need to be extended to protect the attic space. All new residential board and care occupancies are required to be protected by automatic sprinkler systems with the exception of conversions (i.e., when a residential or health care occupancy is converted into a small residential board and care home) and the evacuation capability of the facility is “prompt”. If the attic is not used for living, storage or placement of fuel-fired equipment the sprinklers can be omitted in lieu of automatic heat detectors tied to the building’s fire alarm system; or if the attic is constructed entirely of noncombustible or limited-combustible materials; or if the attic is constructed of fire-retardant-treated wood. This is an updated and more stringent requirement in the LSC compared to earlier editions of Code. The new requirement results from recent fire history in residential board and care homes, including a multiple fatality fire, that involved the attic space of the board and care home. There is also an expected increase in fires that may originate outside of these occupancies because of increasing requirements that residents only smoke outside of the building.

### **Additional Doors Must be Unlockable from Inside in Day Care Occupancies**

Starting with the 2012 edition of the LSC, requirements for doors to be able to unlocked from the inside have been expanded to cover additional rooms/areas. Previous editions of the LSC, including the 2000 edition, made it mandatory for closet doors to be able to be unlocked from the inside in day care occupancies. This requirement has been expanded in the 2012 LSC beyond only closet doors to now include storage areas, kitchens and other similar spaces to ensure that clients can open the door from the inside of the space or area. This requirement pertains to both new and existing day care occupancies.

### **Right of AHJ to Get Technical Assistance**

Language has been added to the 2012 LSC to allow the authority having jurisdiction (AHJ) to require a review of submitted plans/projects by an independent third party with expertise in the matter to be reviewed at the submitter's expense. Furthermore, the AHJ is authorized to require design submittals to bear the stamp of a registered design professional. (There is no such provision in the 2000 edition of the LSC).

### **No Exemption for Fire Alarm System in Existing "Impractical Evacuation" Large Board and Care Occupancies**

Starting with the 2012 edition of the LSC, the Code has removed a previously allowed exemption for an existing large (> 16 clients) residential board and care home of "impractical" evacuation capability to escape being protected by a fire alarm system. The 2012 LSC allows only "prompt" and "slow" rated facilities to be exempted from fire alarm system installation if the building does not exceed three stories in height and each sleeping room has exterior exit access. However, facilities with "impractical" evacuation ratings can no longer take advantage of this exception. (In the 2000 edition of the LSC, even facilities with "impractical" evacuation ratings could be exempted from installing a fire alarm if the facility met the defined criteria).

### **Limits on Festival Seating**

Starting with the 2009 LSC, the Code limits the use of festival seating inside both new and existing assembly occupancies to those having an occupant load of  $\leq 250$ . (The 2000 LSC allows festival seating to be used up to 1000 occupants). Festival seating refers to events where no assigned or numbered seating is used and occupants choose their own seats after entry to the venue.

### **Emergency Lighting in Hotels**

Starting with the 2009 LSC, emergency lighting is required to be provided in all new hotels and dormitories regardless of the number of guest rooms. (The 2000 LSC does not require emergency lighting in new hotels or dormitories until at least 25 rooms are provided).

### **Revised Definition of "Detention Occupancy"**

Starting with the 2009 edition of the LSC, a threshold of just "one person" was established as constituting a detention occupancy if that person is not in control of their own exiting. (This is a reduction from the threshold number of four persons in the 2000 edition of the LSC).

### **Sprinkler Protection for Porches and Decks in Residential Board and Care Occupancies**

When new small residential board and care homes (those serving  $\leq 16$  clients) are required to be sprinklered, the sprinkler protection must include coverage of roofed porches, roofed decks and roofed balconies. These areas were heretofore not required to be protected by automatic sprinklers in earlier editions of the LSC.

### **Lockers to be Considered Interior Finish**

Starting with the 2012 edition of the LSC, lockers constructed of combustible materials must now be considered as “interior finish”. This imposes the same “flame spread” and “smoke development” criteria on lockers as would be applicable to wall and ceiling coverings. The LSC however, does allow the use of wooden lockers in any location where interior finish materials are required to meet a Class C classification – which is the lowest interior finish classification recognized in the Code. (The 2000 LSC limits the presence/installation of combustible lockers in specific occupancy chapters under specific conditions, but does not include this requirement that is applicable across-the-board in all occupancies to consider lockers under the interior finish provisions of the Code).

### **Polypropylene and High Density Polyethylene**

Starting with the 2012 edition of the LSC, the use of polypropylene and high-density polyethylene as interior wall or ceiling finish is restricted unless the material complies with the testing criteria established in the code.

### **Smoking Restrictions in Tents**

Starting with the 2012 edition of the LSC, smoking is now prohibited in any tent unless approved by the authority having jurisdiction. Previous editions of the LSC, including the 2000 edition, only prohibited smoking in tents when the AHJ specifically took positive action to prohibit the activity.

### **Notify Fire Department of Presence of Lockup**

Starting with the 2012 edition of the LSC, occupancy owners are required to notify the fire department responsible for responding to an occupancy if any form of a lockup (where occupants may be refrained from exiting on their own) is present. (No such mandatory notification is required in the 2000 edition of the LSC).

### **Emergency Lighting in Existing Large Residential Board and Care Occupancies**

Starting with the 2012 edition of the LSC, emergency lighting is required to be provided in all existing large (> 16 clients) residential board and care homes that have an evacuation capability of “impractical”. Those facilities having an evacuation capability of “prompt” or “slow” require emergency lighting only when the size of the facility exceeds 25 rooms. Previous editions of the LSC, including the 2000 edition, did not require emergency lighting in any existing large residential board and care occupancy, regardless of evacuation capability, until the size of the facility exceeded 25 rooms.